The Training of Personnel in American Industry

EDITH DVILNSKY

THE TRAINING OF PERSONNEL IN AMERICAN INDUSTRY

By

EDITH DVILNSKY

Requirement for Degree

MASTER OF BUSINESS ADMINISTRATION

BACHELOR OF SECRETARIAL SCIENCE

BOSTON UNIVERSITY, COLLEGE OF PRACTICAL ARTS and LETTERS

"Personnel administration is the direction and co-ordination of the human relations of any organization with a view to getting the maximum necessary production with a minimum of effort and friction, and with proper regard for the well-being of the workers."*

*TEAD and METCALFE: Personnel Administration

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PREFACE

The problem of personnel management is a comparatively recent one, but one, the importance and difficulty of which, is gaining recognition rapidly in business research circles. I have tried, in the following thesis, to bring forth the most important facts which concern this problem.

Although I have tried to cover all the important problems of personnel management, it is very probable that I have omitted many. The very breadth of the subject has prevented my delving into the depths of each one.

To have attempted to exhaust each problem would have been an impossibility in so narrow a presentation as this thesis, and, furthermore, would be contrary to my main purpose. Each problem has matters that concern itself alone, but also, each has a

bearing on the theory of personnel management in general. It is this general theory that guides, in the main, my discussion.

I have divided the thesis into sections, as follows:

FIRST: a brief history of the rise of the problem of personnel management.

SECOND: the personnel department and employment.

THIRD: education of employees.

FOURTH: a brief summary of the functions of the personnel manager.

I am especially indebted to Assistant Dean T. Roy Davis, of Boston University, and to the Employment Manager of the Dennison Manufacturing Company, for their very generous assistance.

PART I

INTRODUCTION

Despite the fact that American industry has progressed rapidly, so far as machinery and equipment were concerned, it was a long time before it adopted the idea of scientific management of personnel. In fact, many people observed that industry was not quite ready for it--that it was "twenty years ahead of its time."(1) It was not until just prior to the World War that the leaders of industry began to recognize the great value of the individual in their fields of business.(2)

Before this time the relationship between the employer and employee was given very little consideration. So far as the employer was concerned, all he required of the worker was a good day's work. Production was measured by the ability of the foreman to "drive the workers, and the workers' conception was how little they could do and hold their jobs."(3)

Before the Mechanical Revolution, which took place during the 18th and 19th centuries, practically all the work was hand labor. Guilds were formed, and employer and employee worked side by side at the same bench, giving little thought to working conditions,

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(1) TAYLOR: Scientific Management, (p. 23)
(2) SCOTT, CLOTHIER and MATHEWSON: Personnel Management, (p. 7)
(3) TAYLOR: Scientific Management, (p. 2)

job analysis, etc., with the result that there was very little, if any, discontent and restlessness. Class consciousness was not so in evidence then as it is today, and the worker who was born in a certain class was content to live and die in that class. He knew that it was practically impossible to progress to a higher class, and, therefore, his only thought was to earn enough for himself and his family to retain the standard as set by his class. The result was small wages and long tedious hours of work, most often under very unfavorable working conditions. Even then, although he may have been doing more work than his neighbor at the same bench, he seemed to be content, for he knew that it was practically impossible to graduate, so to speak, to a higher class.

On the other hand, production suffered to a great extent under the Guild System. Owing to individual differences, some of the work was done exceedingly well, but to counterbalance this, a great deal of it was done very poorly. This was due to the fact that the health of the worker was being broken down rapidly, especially in industries where occupational hazards were prevalent, as in the tobacco industry.

So far as I can see, therefore, the main advantage of the Guild System was that the worker seemed satisfied with his work, and there was very little

unrest, grumbling and misunderstanding.

With the removal from the old regime to the new--from the Guild System to the Factory System--came the rumble of discontent. This was a natural outgrowth. Where before there were only a few people working side by side, now there were hundreds; where before there was a personal relationship and sympathy and understanding among the workers, now there was only a casual acquaintanceship; and where before there was almost complete understanding between employer and employee, now the employee was regarded as part of the machinery and equipment of the industry.

The employee was regarded as a commodity in business, to be bought and sold, just as the other materials in production are bought and sold, according to the demand. The employer came to regard, unintentionally, of course, the worker as a "cog in a great machine."(4) It was understood that the worker must do his work especially well or he would be immediately replaced. Under this factory regime, the foreman, who had charge of the hiring and firing of the workers, and who, too frequently, knew very little about handling and teaching men, was put in charge of

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(4) SCOTT and CLOTHIER: Personnel Management, (p. 5)

the group. He was most often an unsympathetic man, who seldom could be relied on to understand any difficulty which the worker might be encountering; and very often, instead of trying to help the new worker to obtain a better understanding of the situation, the foreman would fire him and hire another man in his place. This usually happened when there was an abundant supply of labor. The individual was not given a chance to develop his potentialities.

The cost of hiring and firing in this haphazard manner soon made the industrial leaders realize that something was radically wrong with the system. The worker began to develop a fear of losing his job, there was general discontent, and once more the dangers of the Guild System were being transferred to the Factory System.

Industry began to notice and recognize the fact that buying a man's physical strength was not enough. The successful laborer must be interested in his work; he should apply mental ability as well as phsyical ability in order to be successful in his work. A combination of the two--mental and physical abilities --was the ideal situation and would result in greater and higher quality production.

Mr. Frederick W. Taylor, originator of the Taylor System, now known as "Scientific Management", was one of the first men to lay the foundation of scientific management of personnel.(5) With the help of William Sellers, his chief, he conducted many experiments at the Midvale Steel Company, where he worked as a young man. He also conducted many experiments at the Bethelem Steel Corporation under the guidance of Carl G. Barth.(6)

As a result of the experiments and research of Mr. Taylor, we have today personnel management, which is one of the most important phases of industrial management.

(5) TAYLOR: Scientific Management, (p. 2)
(6) TAYLOR: Scientific Management, (p. 3)

PART II

THE PERSONNEL DEPARTMENT

Industrial management is one of our newest professions. Every profession, from the blacksmith to the medical, was started as a sort of experiment, fumbling in the dark for its exact requirements and standards. The same is true of the profession of Personnel Management. When the Boston Employment Managers Association was started, about 1914, it was with the idea of studying men in relation with the working conditions.(1) This was not a new idea with this Association. A. Lincoln Filene and Henry Dennison were then starting to think along personnel lines and the Association simply studied their ideas. The Tuck School at Dartmouth College gave the first course in Personnel Management.(2) Since then many business colleges have sprung up very rapidly and such schools as the Harvard Business School, which was established in 1908, Boston University College of Business Administration, established 1913,(3) and many other business schools in connection with colleges, which have concentrated on business management. The result is that very valuable research work has been done in connection with personnel management.

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(1) BLOOMFIELD: Problems in Personnel Management, (p. 10)
(2) BLOOMFIELD: Problems in Personnel Management, (p. 11)
(3) BOSTON UNIVERSITY, College of Business Administration, Catalogue

The Personnel Department of a business is a very important department, for here must be gathered a working force that should be willing, co-operative, and ambitious enough to work for the benefit of the organization. The department has many duties to perform. The most outstanding of these are: employing workers, supervising health and safety conditions, education of the workers, research to determine what working conditions are most advantageous, services to the workers (including recreation), and adjusting difficulties among the employees.(4)

I shall not endeavor to explain each function of the department, as I think most of them are self-explanatory. However, I think the employment department is one of the most important functions, and therefore worthy of more detailed description.

This department, the employment department, gives the employee his first impression of the job he is to fill. It is very important that he get a very favorable impression, and the reason for it is this: there are two requirements for every job in order to make the employee a successful man. These are that the wages be satisfactory, and that he have enough leisure time to enjoy the results of his labors, to satisfy the needs and desires of life.(5)

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(4) BENGE: Standard Practise in Personnel Work, (p. 12)

(5) BRUERE and PUGH: Profitable Personnel Practise, (p. 1)

As soon as the worker enters the employment department, he creates an attitude, favorable or otherwise, towards his new job. It is very essential, therefore, that the employment manager be a man who is tactful, understanding, sympathetic, and, at the same time, clear as to the requirements for the work. A surly, sullen, and smart-alecky type of employment manager may do a great deal of harm, and it takes a long time--days, weeks, or even months--for the employee to overcome an unfavorable impression.(6)

The employment manager should possess "a keen sense of social justice, interest in people, judgment and common sense, courage, sales ability, unselfish point of view, tact and diplomacy and, finally, a power of analysis."(7) In addition to all these traits, he should have judgment and character, for, one man who acts as go-between for employee and employer should have "at once broad-mindedness and approachability, ready to listen sympathetically" to both sides.(8) He should have a thorough knowledge of business conditions in general, as well as conditions in his own industry. He must be able to fit the man to the job--"the square peg in the square hole."(9)

(6) GRIFFITTS: Fundamentals of Vocational Psychology, (p. 112)

(7) SCOTT, CLOTHIER and MATHEWSON: Personnel Management, (p. 57)

(8) CHILDS and CORNELL: Office Administration, (p. 218)

(9) BURTT: Employment Psychology, (p. 4)

SOURCES OF LABOR SUPPLY: Regarding labor as a commodity, the employment department must gather its employees just as the purchasing department gathers its raw materials.

There are several sources of labor supply and the employment manager must be acquainted with the type of labor available from each source, as well as the type most fitted for the job to be filled. Among the many sources of supply are: labor unions, employment agencies, industrial schools, personal acquaintanceship, recommendations from within the factory. The latter is a very important source and is the one which is most popular. Every employment manager should be thoroughly acquainted with the job to be filled in order that he may choose what kind of labor is best adpted to the plant. To my mind the best source os labor supply is recommendations from present employees. The Houghton-Mifflin Company, Riverside Press, has almost never in its history, drawn labor from outside sources. Whole families work side by side. The reason for the extreme good will between the employer and employee in this company, is that the executives take "a fraternal rather than a paternal attitude".(10)

Another source of supply is by keeping in touch with the leaders of the community: bankers,

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(10) Mr. Howard Roberts, Houghton-Mifflin Company,
Riverside Press

doctors, lawyers, teachers, and ministers. The business schools, such as Burdett's, Bryant and Stratton, Fisher's Business College, Boston Clerical School, (not a private school, but rather a part of the Boston School System), are very dependable sources for business managers, especially in the field of secretarial and office work.

When deciding where to locate their factories, many industries must take into account the nearness of labor. Usually an industry will locate near the source of the cheapest labor supply. An example of this is the removal of the milling industries from the northeast section of the country to the south, because of the fact that labor in the south is cheaper.

Advertising and help wanted signs are fairly good mediums for unskilled labor supply, but they are not very reliable.

The Ford Motor Company reserves 1% of its employment quota for ex-convicts, and it is said that when an ex-convict presents himself at the Ford Plant he is seldom turned away unless he has shown himself unwilling or undeserving.(11)

Large numbers of employers do not have to draw on outside sources very often, for they usually

(11) TEAD and METCALFE: Hiring the Worker, (p. 46)

gauge their labor requirements about a year in advance. In this way, they can keep in line efficient workers in times of light production--a kind of reserve labor supply for times when production is very heavy. (12) At the same time this helps to reduce labor turnover costs.

SELECTING THE EMPLOYEE: The employment manager should know exactly what requirements as to physical, mental, and moral characteristics, skill, age, sex, and nationality, are required for each job. (13)

When an applicant presents himself to apply for a job, he is usually asked to fill out an application blank. Just as we have job specifications in industry, so we have employment specifications. (14) Certain jobs require certain types of help. Specifications are usually made out in duplicate or even tripilicate, so that each department involved may have a copy of the requirements for the job.

Application blanks will naturally differ in each organization, but fundamentally they are all the same. They include name of applicant, address, work desired, education, marital condition, and past

(12) FORD: A Scientific Approach to Labor Problems, (p. 190)
(13) BRUERE and PUGH: Profitable Personnel Practise, (p. 13)
(14) BURTT: Employment Psychology, (p. 4)

experience. But the chief and best source of information in regard to an applicant is the personal interview. Some companies, instead of leaving the questions to be asked to the discretion of the employment manager, print a definite set of questions to be answered by the applicant. The Westinghouse Lamp Company has installed this practise.(15) However, the applicant does not see these questions, for he should not be made to feel that he is being tested in any way.(16) The Hills Brothers Company has a form of blank, whereby, if the applicant is accepted, the reverse side is used as a record card.

The personal interview, or the so-called Personality Test, can be the deciding factor in the hiring of an employee. Upon presenting himself for this test, he should be very careful to create a favorable impression in regard to his dress, manner, and mode of speech. The interview should take the form of discussion rather than question and answer. The applicant should be made to feel perfectly comfortable and at his ease, free to ask any questions any questions in regard to the work and should be given a definite understanding in regard to all the

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(15) BENGE: Standard Practise in Personnel Work, (p. 108)

(16) BRUERE and PUGH: Profitable Personnel Practise, (p. 13)

requirements for the job, so that he may judge for himself whether or not he is fully equipped to undertake the work.

Many industries require new workers to pass certain mental and physical tests. Psychological tests are very important both in testing technical as well as mental abilities. Satisfactory tests should have a definite purpose that should measure the abilities of the applicant (strength, skill, knowledge, reasoning ability, judgment, speed, accuracy, etc.), character of the applicant, personality, etc.(17)

The final step in hiring the worker is to consider the references he has to offer. There are two kinds of references: the ordinary letter of reference obtained from a previous employer, stating the length of experience with that particular firm, and the degree of satisfaction with the employee; the other type of reference is obtained in a different way. The applicant gives the names of people who are capable of judging him as to character, skill, and morality. Most of the larger organizations use this latter method of obtaining references, among

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(17) BINGHAM and FREYD: Procedures in Employment Psychology, (pp. 90-93)

them being the Dennison Company and the Boston Elevated Railway Company. They send printed forms to the persons whose names are given. As a rule, because references are usually biased and unreliable, they should not be rated too highly. However, they can be of value in selecting high-grade employees if "critical consideration is given to the weeknesses of references."(18)

In practically every industry which has a separate personnel department, the personnel manager has the final authority in hiring a worker, as well as in rejecting or transferring him.

(18) BARIDON and LOOMIS: Personnel Problems, (p. 28)

PART III

EDUCATION in INDUSTRY

TRAINING THE WORKER: Charles T. Clayton, Director of the United States Training Service, Department of Labor, Washington, D. C., made the statement that "seven million workers in American manufacturing establishments produce about one-third of their potential output, and three our of every four workers contribute less than the average production of the four."(1)

This was due, primarily, I think, to a breaking down of the industrial workers since the dissolution of the old apprenticeship system.

Modern education systems have aimed to help solve the problem by establishing technical and trade schools, but even these could not fill the gap. Finally, an aid was found in the part-time schools.

PART-TIME SCHOOLS: this is a system whereby students are required to attend schools while working in industries. This develops into a form of apprenticeship. Germany, before the war, was the pioneer in this movement. They had a law by which all children between the ages of 14 and 18 years, who were doing industrial work were compelled to attend part-time industrial

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(1) FRANKEL and FLEISHER: Human Factor in Industry, (p. 77)

schools. England very soon adopted a plan similar to this one, whereby children employed in non-essential industries were required to attend vocational schools until the age of 16 years. After 16 and until the age of 18, they were required to attend certain schools for 324 hours a year.(2)

Child Labor, under the legislation of the United States, is a very recent development. The first Federal Child Labor Law was passed in September, 1917.(3) Every state in the United States, except Utah and Wyoming has prohibited the employment of children under the age of 14 years. Many states prohibit the employment of children under 16 after 5 P.M. By prohibiting the employment of children under the age lf 14 they have at least eliminated the necessity for elementary education in industry.

On the other hand, regardless of how extensively, or how well, pupils may be trained in vocational schools, industries will always be compelled to operate their own industrial education departments.

It is very obvious that no school can duplicate industrial conditions to such an extent

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(2) FRANKEL and FLEISHER: Human Factor in Industry, (p. 78)
(3) ENCYCLOPAEDIA BRITTANICA: 14th Edition, (p. 485)

that a student in an industrial school can be transferred immediately to the industry without individual training.

The public schools, therefore, are a very unreliable source for skilled workmen, because of the fact that their training is inadequate. Therefore, the only think these schools can do is to give the student a general knowledge of any one industry and then, when he chooses that industry as his life work, he may learn all the other details either by attending the training school or by serving a kind of apprenticeship.

Every industry has certain peculiarities of process and production, and no school could possibly duplicate these differences,for the schools must teach the general knowledge rather than the specific knowledge.

However, schools have co-operated with industries by establishing courses which would eventually help the student in the industry in the immediate vicinity. The schools in the City of Boston have established courses such as Salesmanship, Shop Mechanics, etc., which will help the student who wishes to obtain work in the various factories in the immediate vicinity of Boston.

Not only should the worker be trained technically, but also he must be trained to keep his mind alert at all times. There are many industries which employ men for the sole purpose of looking after the large machines which operate automatically. These men become "machinized" and, unless trained to be alert they may create accident hazards. The work becomes monotonous, and soon their minds begin to wander away from the business at hand. Then when an emergency does occur, they are not prepared for it.

Such factories as the Edison Electric Power Plant, at Weymouth, Massachusetts, must train their men to be constantly on the "qui vive" to avoid accidents, to react swiftly to emergency calls, and to adapt themselves to new methods and changes in production.(4) They can do this by training the "machinized" employee for a higher position or for promotions.

<u>VOCATIONAL TRAINING</u>: the first needs for vocational training were felt during the period of 1845 to the outbreak of the World War, when there was so much immigration into this country and an abundant supply

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(4) FRANKEL and FLEISHER: Human Factor in Industry, (p. 80)

of unskilled labor.(5) These illiterate workers entered the industries ignorant of the rules and policies of the organization and ignorant even of our language. Consequently, they established for themselves great accident hazards.

Obviously, therefore, the first needs were felt in the field of Americanisation. These immigrants must be taught our language before we attempted to teach them our industrial methods.

The first step in training a worker is to introduce him to the organization. This is done, usually, by an introductory talk given by one of the executives of the firm, of by the foreman. It is usually nothing more than an understanding of the rules and regulations of the business, and serves as a guide for the "green" worker. Some firms, such as the Dennison Manufacturing Company, give the worker several pamphlets which explain the history of the business, wage payments and bonuses, profit sharing plans, and other items which the employee should know about the organization.

When the employee is introduced to the organization in this way, a spirit of friendliness and

(5) COWDRICK: Manpower in Industry, (p. 194)

understanding between the executives and the workmen is created, and he feels that he is really a very important part of the organization, and not one of the small, unimportant "cogs" in the great machine of industry. He will shoulder his responsibilities with a new enthusiasm.

Immediately after being introduced to the business, specific instruction is given in regular shop routine. Many of the large industries, today, are eliminating individual specific instruction, and are hiring only skilled workers. The reason for this if that the market today has a definite oversupply of skilled workers. However, in times of normal business conditions, instruction and training are very important phases of business organization.

It is an advantage to the worker to give him regular preliminary and systematic training before he is given the definite job he was hired to fill. One of the chief reasons is this: it not only does away with waste in production, but also helps to reduce labor turnover to almost a minimum. In fact, one factory which employs over eight thousand people reported that the labor turnover was reduced 15% by the introduction of this preliminary training system.(6)

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(6) UNITED STATES DEPARTMENT OF LABOR: United States Training Service, Bulletin #7, 1919

There are many methods of imparting information to employees, such as: posted instructions, printed matter, wall cards, etc. But the most effective method is by giving lectures and definite instruction under a capable teacher. Many industries such as the Dennison Manufacturing Company, used to have special training departments, where the new employee was sent to receive all instructions and training.

The length of time he spent in the department was dependent on his ability to grasp the work, his previous knowledge of business, education, and any fundamental business experience he might have had, as well as the type of instructor in charge of training.

The instructor should be a man whose only work is to teach. The selection of the instructors may hinder, make, or mar the training work. He should be a man who has the ability to impart knowledge, for many times the instructor, who has, of course, a broader knowledge of the industry, will know many tricks of the trade which are not given in text books. (7) He should be a man who is practical rather than theoretical.

During the time that the employee is in the training department, records are kept of his progress

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(7) BENGE: Standard Practise in Personnel Work, (p. 177)

and the employee is paid according to previous agreement. If he is to do piece work eventually, he should qualify for it within three weeks. If he doesn't, the foreman may ask for the discharge of the employee, or he may request a transfer to some other department, where the work may be better suited for the worker.(8)

Training should always be done on actual production and not on practise work, because, if the employee does not get experience on actual production, he may have to go through another training period, which is natuarally doubling the cost of training. Also, if the worker does not do training on actual production, he may soon get discouraged, because he is not able to see the results of his work in the training department.

PART-TIME SCHOOLS: Many industries have met the training problem by establishing part-time schools. One of the first examples of the willingness of the Board of Education to co-operate with industry was the educational survey taken of the City of Framingham, Mass.(9) The survey was taken because of the apparent educational

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(8) BRUERE and PUGH: Profitable Personnel Practise, (p. 30)
(9) KELLEY: Hiring the Worker: (p. 111)

needs of the large number of young people who entered the employ of the Dennison Manufacturing Company every year. As a result of this survey the educational curriculum of the schools in Framingham was changed so as to include many industrial subjects.

The New England Shoe and Leather Association arranged with the Boston School Committee, in 1910, to establish a shoe and leather continuation school.(10) In a report given by the Committee on industrial education two years later, the following statement was made:

"Since establishing this school there have been graduated more than two hundred pupils, each of whom has received an official certificate of his technical ability, and in this way there has been laid a splendid foundation for the larger scheme of industrial education that is now being considered by the Association."

In this case the Association held a series of two-hour sessions on two afternoons a week, provided competent lecturers to give talks on the subject; the school provided the instructor and the classroom. Trips of inspection were made to nearby factories, tanneries, etc., and, in this way, the pupils became very enthusiastic and very much interested in their chosen work.

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(10) KELLEY: Hiring the Worker, (p. 112)

However, the continuation school is not the only type wherein schools co-operated with industries for the education of the worker. There is a part-time plan in operation today, especially in salesmanship, in the Boston Public Schools, whereby the student learns the theory of salesmanship in school, and, at the same time, gets actual experience in the department stores in Boston. The Graduate Business School, at Harvard College, had a system whereby the students were required to do industrial work at least three months during the year (usually during the summer months), but, since the decline in business, this regulation has been made voluntary rather than compulsory.

The system of part-time training has proved very satisfactory and effective, as it gives the future employer a conception of the abilities of the worker. Therefore, if a student prepares himself for permanent work, the employer is able to fit the job to the man and the man to the job.(11) By this method, the pupil may experience trade under actual conditions, and at the same time, learn the theory of the industry. Also, it gives him the opportunity of seeing exactly how the theories are put into practise.

(11) FRANKEL and FLEISHER: Human Factor in Industry, (p. 80)

As a rule, each industry usually trains its own employees for specific jobs, to be filled immediately, but, in order to be a good worker, a man must not be allowed to become stagnant while filling his job. Despite the fact that so many of the cities and towns have endeavored to co-operate with industries, there is still a considerable "lack of co-ordination between schools and industry."(12) There are many ways open to the worker in which he may train his mind as well as his physique. These are: industrial courses offered by the Business Schools, Y.M.C.A. courses, special courses given by the industries themselves, etc.

TRAINING WITHIN THE INDUSTRY: Training within the industry involves the training both of the uneducated and the educated worker. The uneducated worker may either spend time in the training department, or he may be an apprentice to some foreman and work as a "knock-about" worker. On the other hand, the college man must be handled in a different way. Industry usually pays for what the worker actually does, and not for his potentialities, unless these are very obvious and easily brought out.

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(12) SCOTT, CLOTHIER and MATHEWSON: Personnel Management, (p. 342)

A college man, who has had a general, rather than a specific training in industry, and is loathe to start at the bottom, presents a serious problem to the employer. To meet this problem, many industries establish intensive training courses.(13) These courses usually consist of practical work in every department in the industry, step by step, supplemented by special training courses. William Filene & Sons Company, of Boston, have a special training school which is operated in this manner; also, the Houghton-Mifflin Company, of Cambridge. While the latter does not have a special training school, it does require that every college man who is training for an executive position, must start as a messenger boy and work his way gradually to the top. Of course, with his educational equipment, he can do this much more quickly than the mere high school or grammar school boy.

APPRENTICESHIP SCHOOLS: This form of training dates back to the old apprenticeship system during the guild days, when a worker was assigned to a definite task and repeated that task day in and day out until he learned all the details and the best methods of doing the work. This system has been carried over to the

(13) COWDRICK: Manpower in Industry, (p. 199)

modern factory system but, although it was very much in vogue, its popularity is gradually diminishing.

The Gilbreth Three Positions Plan has taken its place. By this plan, each employee is being trained for a higher position and, at the same, time, is training a subordinate for his present position. Eugene J. Benge calls this "an ingenious training method."(14)

Apprenticeship training is different from other training in that the apprentice is trained for a craft. Frank Cushman, Chief of the Industrial Education Service, Federal Board for Vocational Education, defined an apprentice as "a person employed as a learner in a skilled trade, working as a learner, paid as a learner, with the promise of becoming a mechanic in that trade."(15)

Apprenticeship training is recognized as essential by all industrial leaders; a worker must learn his craft thoroughly in order to produce according to job specifications. The apprentices may be scattered throughout the factory, or they may be concentrated in one training section but, however, that may be, he is regarded as a company employee and should be trained as such. He is not in any way responsible

(14) BENGE: Standard Practise in Personnel Work, (p. 167)
(15) CORNELL: Industrial Organization, (p. 324)

to the shop in which he is working, but, rather, to the company. The apprenticeship system is perhaps one of the most universal forms of training in industry today. (16)

Vestibule schools differ from apprenticeship schools in that they give instruction in only one specific job rather than in the whole craft. This type of school was established during the World War, about 1917, by the Recording and Computing Company, of Dayton, Ohio. (17) The vestibule school is described as "a preliminary training school in which the new employee is taught in the shortest possible time the specific work which he will be expected to perform." (18) By this definition one can see the value of such a school during war times, when there is a sudden demand for workers, as there was during the last war, when the demand came for munitions workers.

The vestibule school is a separate department, equipped with all the different types of machines which are used in a factory. Vestibule training applies to jobs of the same kind which are scattered throughout the organization where there is not enough concentration of beginners to warrant local instruction. (19)

(16) SCOTT, CLOTHIER and MATHEWSON: Personnel Management, (p. 334)
(17) FRANKEL and FLEISHER: Human Factor in Industry, (p. 88)
(18) CORNELL: Industrial Organization, (p. 323)
(19) BARIDON and LOOMIS: Personnel Problems, (p. 168)

Some such jobs would be: messenger boys, typists, clerks, stenographers, etc. These schools were a direct outgrowth of the tremendous and sudden demands for the products of such industries as the aeroplane and motor, which were forced to install these schools.

However, vestibule training is not necessarily a wartime measure; when it is properly "centralized, systematized, and supervised by expert teachers, it is one of the best methods available by management to meet the problem of the high cost of labor turnover."(20)

Vestibule training is advantageous in that it gives the worker skill in the process before actually working at the job, thereby saving considerable waste in raw materials. Another advantage is that constant supervision is unnecessary because of the fact that his work is not of any great value while he is learning, and he uses the same materials over and over again, until he has mastered the process. On the other hand, the disadvantage of this system would be that the worker is going through a period where he is being paid, but is not producing and, also, extra space and equipment are being used for non-productivity.(21)

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(20) SCOTT, CLOTHIER and MATHEWSON: Personnel Management, (p. 335)

(21) BENGE: Standard Practise in Personnel Work, (p. 167)

Another disadvantage is that the worker is very apt to lose interest in his work, because he is repeating the same process over and over again, and is not producing anything materially. One way of overcoming this latter difficulty is the method used by one of the largest manufacturers of electric supplies in our country, who secured strong interest from apprentices by actually buying from them the acceptable units of production.(22)

The method of training which seems to be most popular today is training on the floor. This seems to be a form of apprenticeship but, on the other hand, it gives the worker actual experience at the machine which he will eventually master. Many times, when a man applies for a position, he usually rates himself as an all-round machanic when, as a matter of fact, he has only a smattering knowledge of the work he is to perform. If he is given the job without any training whatsoever, the result is apt to be very costly to the industry as well as to the worker, because, usually, he has over-rated himself and when he does not do the job satisfactorily, is rated as incompetent. Instruction, therefore, is absolutely

(22) BENGE: Standard Practise in Personnel Work, (p. 167)

necessary, and instruction of this sort should be carried on under a competent person who is willing to teach. This latter point is very important because, many times, if the instructor is loathe to be taken from his own job, the learner will suffer considerably from lack of sympathetic instruction.

Another method of training on the floor is the so-called "knock-about" worker. This is a form of special training, open to any who care to join. The Western Electric Company has many such training classes in the various departments.(23) Certain classes are open to high school and grammar school graduates; others are open to executives and foremen, and still others, are open to graduates of either colleges or technical schools. After finishing the courses in these special training classes, the employee is placed in the position for which he is best qualified. Similar systems were adopted by the American Locomotive Company, the New York Edison Company, and others.(24)

The practice of training on the floor is most common in industry today. The "green" employee is more or less of a helper to an older employee until he is capable of running the machine to capacity production by himself.

(23) FRANKEL and FLEISHER: Human Factor in Industry, (p. 93)

(24) FRANKEL and FLEISHER: Human Factor in Industry, (p. 94)

During the training period, records are kept of each individual's progress and achievement. When the Dennison Manufacturing Company had its separate training department, it studied each employee and did not allow any worker to enter the regular employ of the company unless he was able to earn a certain specified wage.(25) In addition to the obvious advantages of this, the company was assured of a productive worker, free from the nervous tension and strain which a new worker usually undergoes when entering a new job, and keeps the worker from getting discouraged because he cannot produce as much as his fellow worker. It also relieves the foreman of further responsibilities so far as further training is concerned.

However, since the sudden decline in business today, industries have done away, to a great extent with the separate training department, and are dling practically all their training on the floor--at the machine. Among the companies who carry on training in this manner are The Walworth Company, the Dennison Manufacturing Company, and The Houghton-Mifflin Company.

In training on the floor, the instructors are chosen from among the experienced employees, and are

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(25) BURKE, R. J.: Written Specifications for Hiring"
May, 1916.

trained in teaching the work. These instructors are trained in all the processes of the industry, and, in turn, train each worker for from one to ten different operations. In this way, the industry can feel that it can always call upon any worker to fill a position in which there is a shortage of operators, and, at the same time, does away with the practice of most industries--that of laying off help in times of decreased demand for products.

Although there are many advantages to the system of training on the floor, there are fully as many disadvantages. These are:(26)

FIRST: many times, if the training period lasts too long, the learner becomes discouraged. This indirectly will impede his progress to a great extent.

SECOND: during the training period, the control of the business may become slightly disorganized, due to the fact that there are so many inexperiensed people scattered through the factory, that processes which are interdependent are delayed, and delivery is detained.

THIRD: when the instructor is forced to give his time to teach a beginner, he is very apt to neglect his own work. Also, the people in the immediate

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(26) CORNELL: Industrial Organization and Management, (p. 321)
Also: Readings from United States Training Bulletins

vicinity of the learner are distracted. All these factors combine to lower production.

There is a final disadvantage in training on the floor. This is the considerable amount of spoilage and waste. New employees are not trained to economize on raw materials, and this fact alone would be an argument in favor of the separate training department.

Although a separate training department has its many advantages during times of normal and increased production, at the same time, it is a great extravagance during times such as the present, when demands for production and demands for labor have fallen off to such a great extent.

During all the time that the individual is being trained, the Personnel Department is keeping a close record of his progress.(27) This record shows his rate of production from day to day, the amount of work he is doing, a record of his ability when he finished the training course, when he was transferred to a different department, and his rate of production after the transfer. The latter fact; namely, progress after being transferred, is a check to see if the

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(27) UNITED STATES DEPARTMENT OF LABOR: United States Training Service, Bulletin #21, 1919

[*] INSTRUCTION DEPARTMENT RECORD CARD

No.____ Name________________________ Age____

Being Trained For_________________ Rate______

Recommended By______________________________

Date Started______ Date Transferred_________

Record of Ability While in Training_________

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Transferred To Dept.___ Rate after Transfer__

Record After Transfer_______________________

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Record Obtained From________________________

[*] UNITED STATES DEPARTMENT OF LABOR: United States Training Service, Bulletin #21, 1919

This record card is used in addition to, and to supplement, another card called the "Operation Record", which is a record of the number of hours the employee worked on each process and his progress.

transfer was really justified and if the worker was really ready for the new position. The illustration on the opposite page is a duplicate record card which was kept by a shoe factory, whose training department has proved very satisfactory and successful.

IMPORTANCE OF TRAINING: it is an unquestionable fact that, regardless of how intensive training may become, some degree of training is absolutely essential to the economic success of many industries, as well as to their social success. Just as the more progressive industries have come to realize the importance of research in connection with the personnel department, so have they recognized the importance of training in their industries.

Charles T. Clayton, Director of the United States Training Service, said that the success of a business is usually in proportion to the time and extent that has been given to training. He cites one eastern plant, which he does not name, as being a most successful business, because it had installed a training department which is "a most helpful example of effective factory instruction of the type now keenly interesting many American manufacturers."(28) This

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(28) UNITED STATES DEPARTMENT OF LABOR: United States Training Service, Bulletin #7, 1919

may have been true about fifteen years ago, but I do not think it is the case today. Although training is recognized in business today, it is the skilled worker who gets the job, and not the unskilled, who must be taught the work from the very beginning. This, of course, is due to the fact that the market is flooded with skilled labor and industries do not find it necessary to invest money in specialized training courses and training departments.

However, the training department may be vital in the industry because, it not only concentrates on beginners, but also strives to make efficient workers of the poor and mediocre employees already in the working force.(29) This fosters an ambition in the workers and raises the morale of the whole working force.

The downfall of a training department can be due, primarily, to the instructor, for those who are not trained for teaching, do it in a very haphazard way which is a detriment to the training department and produces a poor grade of workman. Thus is created the need for well-trained foremen, who, in turn, will serve as instructors to the "green" workmen. Foreman training

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(29) CORNELL: Industrial Organization and Management, (p. 320)

is so important that the Federal Government has taken steps in helping industry by passing the Smith-Hughes Act of 1917, whereby; "for every dollar spent by the Federal Government, the state, local community, or both, shall expend an equal amount. This law is administered by the Federal Board for Vocational Education, appointed by the President of the United States."(30)

Foremanship training, under this act, can be either direct or indirect.(31) Direct foremanship training is conducted on a conference plan; there are no lectures, but a different subject is chosen for discussion at each conference, and, in this way, all important subjects pertaining to industrial problems are discussed to great length and in great detail. Some states, through University Extension Departments, offer instruction in foremanship, either by mail or by attendance in classes and lectures. The State of Massachusetts has developed a very extensive program of courses in its University Extension Division, where such courses are offered in all fields of industry and art.

If an industry is to have a separate training department, it should be entirely segregated from

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(30) CORNELL: Industrial Organization and Management, (p. 339)

(31) CORNELL: Industrial Organization and Management, (p. 340)

the rest of the factory so far as location and production are concerned. Production should be separate because of the fact that, when beginners are working on any product, they cannot, naturally, work as quickly as the experienced employees, and therefore, production would be seriously hampered, unless training production is entirely separate from factory production. The department should be run as a model factory, "the main product of which is trained help, the by-product,manufactured parts."(32)

In the training department, there are, naturally many occasions for lectures, and therefore, instruction in these should be given under the most favorable circumstances, apart from the noise and tumult of the throbbing machines of the regular production part of the industry.

When setting up a training department, many industrial heads have said, "Now that we have this department, we can buy new machines for the factory and let them learn on the old ones." This may be an econimic move from the standpoint of immediate expense, but, in the long run, will mean a double training period and double expense, with less production. The

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(32) UNITED STATES DEPARTMENT OF LABOR: United States Training Service, Bulletin #14, 1919

reason for this is that, when a man learns to run an old, dilapidated machine, he naturally learns to make extra movements which are not required on a machine that is in perfect condition. Thus, after he has been training on the old machine for, let us say two weeks, he has formed certain habits. When he is transferred to the regular machine, for regular production, he must start all over again and learn how to run the new machine which is in perfect order. Consequently, he is receiving a double training while producing less than his fellow-workers.

The General Electric Company has in its training department, regular equipment which is a miniature of the equipment in the main plant, and which is operated exactly as the other, even to being equipped with electric current, so that the learner may know exactly how certain operations will react.

Naturally, a training department, regardless of how well it is equipped, is absolutely useless if the instructors are not efficient, understanding, tactful and sympathetic. Instructors are failures if they do not have the ability to impart information, even though they may be skillful and have a high degree of general knowledge. "Teaching ability is rated above

technical knowledge and is something entirely apart from trade skill and trade knowledge."(33)

After the opening lecture, the beginning workers are assigned to different tasks, or rather, machines, in groups of four or five, under the supervision of a capable instructor. Each worker is taught the different parts of the machine and how to operate it. After a demonstration by the lecturer, each student takes his turn at operating the machine. In this way, an instructor may check in the bud, any wrong operation, and may prevent the formation of incorrect habits of production. The student is stimulated to learn quickly, because he realizes that all the others are watching him and he must do his utmost to be just a little better than the other man. There is a competitive element here which does much to drive the learner to success in the training department.

In a great many progressive industries the Gilbrethian plan (p. 27) has been adapted to the understudy plan. Under this plan the employee is constantly fitting himself for the position next higher up.(34) This plan is closely connected with the "Flying Squad"(35)

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(33) SCOTT, CLOTHIER and MATHEWSON: Personnel Management, (p. 332)
(34) FOSTER: Stimulating the Organization, (p. 97)
(35) CORNELL: Industrial Organization and Management, (p. 325)

The Flying Squadron, or the Special Squad, is simply a method whereby a special group of men is trained in all the operations of the organization, so that, they may step in at any time to fill any vacancy that may occur. This system of training was carried out very successfully by the Goodyear Tire and Rubber Company, which started its plan in May, 1913. (36)

During the time that the learner is in the training department, his movements are constantly being watched and checked. The instructors keep a progress card for each worker, and on it is recorded the daily ratings as to adaptability, speed, quality of work, conduct and attendance. (37) At the end of the training period, the progress card is filed away ina tickler file and is not referred to again until about three months later, when the employee's progress is again noted, and again his rating is estimated. This method of rating not only helps to check the progress made in the training department, but also helps in deciding which employees are ready for promotions. Employees, knowing this, have an additional incentive for doing their best work.

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(36) CORNELL: Industrial Organization and Management, (p. 325)

(37) UNITED STATES DEPARTMENT OF LABOR: United States Training Service, Bulletin #11, 1919

As I have mentioned before, (p. 4), one of the first reasons for giving training in industry any thought at all was the high cost of hiring and firing employees--labor turnover. This subject has been very much discussed and is of vital importance in industry during normal business conditions. The cost of turnover is included in the very large money losses to firms, due to the imporper placement of men and the attempt to keep them in work for which they are not fitted. Physical examinations, at the time of employment, have done much to reduce labor turnover. The health of the worker is an important factor in keeping him on the job steadily.(38)

Also, as in the case of the Houghton-Mifflin Company, training in the job for which an employee is adapted, will keep him doing that work, and he will be well satisfied.

A more detailed account of labor turnover is given in Chapter VII.

Whether the training is done on the floor, surrounded by the regular workers, or whether it is done in a separate department, the industry should always be careful as to the type of instructor it

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(38) FOSTER: Stimulating The Organization, (p. 167)

employs, so that the employee is sent to his regular work satisfied, as a result of training, where he is given opportunities to advance, good pay, satisfactory environment, and fraternal employers.

I have said a great deal here about the many advantages of training in industry, and I feel that training, to a certain extent is more than justified. However, the trend in business, today, seems to be to hire only skilled workers, and do away almost entirely with training of any sort. Of course, this may be due to the present situation of an oversupply of labor. However, Mr. Burton, of the Walworth Company, said that their company never hired any but skilled workers and that they have been very much satisfied with their system.

Regardless of whether industry does away with training on a large scale (which the Dennison Manufacturing Company did), a large amount of training, or, we could call it adaptability, will always be necessary. No two industries can have duplicate conditions, and therefore, people who have worked in one industry could not possibly go to another industry and carry on just as though they had been working there for any length of time.

PART IV

AIDS TO TRAINING

PROMOTIONS

It is very seldom the case that a man does not have the ambition to become at some time an executive in the organization. Almost every mechanic usually has some dream of "some day sitting in the boss's chair." The man who does not have these ambitions is usually an undesirable type of workman; he is content with what he is, and does not strive to learn more and to progress with the new industrial methods which are constantly being introduced.

However, the unmotivated workman is very rare, in comparison with the number of people who are ambitious to rise to the very top rung of the ladder of success. It is in the training department that the worker learns of the opportunities available to him, so that he may clearly define his position in the business, and may progress with a definite object in view.(1)

I have found that almost all the industries about which I have inquired have been offering outside courses to their employees. I have also found that almost all organizations either give courses directly under their own supervision, or they direct their employees as to the best sources of information pertaining to the work.

(1) FOSTER: Stimulating the Organization, (p. 399)
(2) CORNELL: Industrial Organization and Management, (p. 327)

There are many ways in which an organization may carry on its educational program. For example: the American Bankers Association offers courses under its own supervision, the Industrial Bankers, Inc. sends its workers literature on the various phases of the work, the Dennison Manufacturing Company employees pamphlets which explain the opportunities open to them, and now, the trend in sales organization seems to be toward the printed training course--sending printed lessons to the salesmen. (3) I believe the latter method is dependent a great deal on the managers of the districts for its success.

I have been reading a great deal about Gilbreth and his plans for promotionals, and I believe it should be a very successful innovation in any industry.

The Gilbrethian Plan of promotions has been mentioned before (p. 27). It is sometimes called the Three Positions Plan--the one last occupied by the man, the present position, and the position for which he will next be eligible. (4) By this plan, the worker must do three things; he must do his own job, train his subordinate for his job, and prepare himself for the job next above his.

(3) KENAGHY and YOAKUM: Selection and Training of Salesmen, (p. 55)
(4) MARSHALL: Business Organization, (p. 185)

The Gilbrethian system, while it is a very adaptable system to most industries, it is much more successful in large organizations than it would be in smaller ones. The reason for this, of course, is that there are so many more positions open to the worker, and absences occur so frequently, that it would be a simple matter to transfer the understudy to the position above, and in this way, eliminate delays in the smooth running of the organization.

The "Flying Squadron" is another way of filling temporary vacancies. (5) This consists of training a certain picked group of men and women in all the processes of the industry so that, in the end, they have a complete knowledge of the entire organization. They are trained so that they may step in, at any time, to fill a vacancy in any department. Here again, a large organization will benefit more than a smaller one. In some organizations the vestibule school takes the place of the flying squadron and, in this way, substitute employees are taken from the vestibule school.

It is an obvious fact that prospects of promotion have done much to stimulate the employee. The Gilbrethian plan is one way, but each organization will

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(5) FOSTER: Stimulating the Organization, (p. 97)

usually find a plan which is most suitable to its own needs.

(6) The Fairburg Company, when it found that its old employees were growing slack, they immediately set to work to experiment with certain plans for remedying this condition.. Each plan which they tried must be fair to both the executives and the employees. They found it very difficult, and consequently, they decided that if a plan proved itself fifty per cent satisfactory they would install it. The plan was to consist "of a combination of scientific appraisals and recommendations by superiors." (7)

Another company, the Dary Company, evolved a plan by which they would reward employees for suggestions in regard to improvements of machinery, designs of products, etc. (8) To my mind, this is a far better plan, for it stimulates interest in the product of the business.

The Houghton-Mifflin Company has a plan which has been most successful and has been in use almost since the very beginning, when the industry was in its infancy. Their plan is based on the

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(6) SCHELL and THURLBY: Problems in Industrial Management, (p. 338)
(7) Same: (p. 340)
(8) Same: (p. 340)

gradual promotional scale. Every prospective employee must start as an errand boy, regardless of whether he is a college graduate or merely a school boy. These boys come in contact with every department of the organization and pick up, here and there, bits of information which help them to decide in which department they are most interested. Mr. Roberts told me that undesirables are immediately told that they have no place in the organization.

The foremen are constantly studying the boys who may, at some time in the future, want to enter their departments. If they decide that the boy is not quite the type for the department, the employment manager is notified of the objection and the reason for it. On the other hand, many times foremen apply for a certain boy with whom they have come in contact during his "errand-boy" days, and who has shown a keen interest in the work. Mr. Howard Roberts the employment manager said that the reason for the success of this system is that the executives take "not a paternal, but rather, a fraternal attitude toward all employees." When questioned as to labor turnover, Mr. Roberts said that the item was practically negligible, owing to the fact that the working

conditions are so satisfactory, and the attitude of the employer toward the employee so understanding and sympathetic. Almost all the employees here are interrelated; parents and children work together. This organization has almost never turned to outside agencies for their labor supply. The training system here has certainly accomplished its aim--finding the right man for the right job. Such a system, to my mind, cannot possibly fail.

The education and promotion plan of the National City Bank of New York seems to be very similar to that of the Houghton-Mifflin Company, except that more stress is laid on extra and broader education. Promotions take place only after intense preparation is made on the part of the employee, and outside study is encouraged. Of course, the Bank repays the employee for all such study which is accomplished in outside organizations.(9)

The method of promotions, as carried on by This organization, seems to me a very long and tedious one, and yet, at the same time, one can see clearly that it is really a case of fitting the person in the

(9) FRANKEL and FLEISHER: Human Factor in Industry, (p. 97)

job to which he is best adapted--the square peg in the square hole.

By giving the employee the opportunity to choose what branch of the work he will follow, the industry is pointing out to him the best, surest, and quickest way of preparing himself for his ultimate goal.

A thorough industrial training is not the epitome of success for the ambitious worker. In order to fill a higher position in the industry, which necessarily involves a great deal of responsibility, and what is more important to the worker, higher wages, he must have not only a thorough technical training, but, also, a broader training in the cultural subjects.

It is quite obvious that a man who holds an executive position should have a more complete understanding of business conditions, as well as a thorough knowledge of the processes and products of his industry. As has been said before, promotion is one of the strongest incentives to keep the employee satisfied. The Rogers Peet Company, clothiers, have the policy, "We hire boys and raise men." (10) Today, the head of every department in the organization, started as a boy and was trained right through until he had

(10) FOSTER: Stimulating the Organization, (p. 112)

attained the higher position.

Training foreigh labor in industrial work has been one of the most difficult problems in industry during the first part of the 20th century. Other countries, as for example, South America, do have a great deal of foreign labor, but they have no bothered very much with the training of them for the simple reason that most of the laborers go there to earn a certain amount of money, and then go back to their mother countries to live in ease. This is not true, however, of the foreign labor element in this country.

At first, when immigrants came to this country in such great hordes, fairly high wages were being paid for unskilled labor. There were so many innovations introduced into industry in the way of machinery, and so many laborers were available that training was pushed in the background. Also, industry was growing so rapidly that there was a greater demand for labor.

The industries, however, did not feel that the unskilled laborer was the most desirable kind, and so they took it upon themselves to teach these foreigners the English language and the duties of an American, as well as such subjects as History, Civics and simple Economics. (This information was received from Mr. Robert Kreps, Manager of the Industrial Bankers of Cambridgeport, Inc.) In this way, the foreigner was

a more complete understanding of the industry in which he was working and could, thereby, give better production for the organization.

Another reason that industry sought to teach the foreigner, was that great accident hazards were created because they could not read the safety signs and warnings which are posted in almost every factory.

Usually, when a foreigner enters this country, he has a very distorted notion of what it is all about. He makes many errors, not because he is malicious in any way, but because he does not know our customs and our laws. An example of this is seen in almost any section where the foreign element is abundant. Industry should take the responsibility of making the foreigner "economically sound, so far as possible, and an industrially efficient member of the group."(11)

The most important thing is, of course, that they learn our language, both reading and writing. School systems have co-operated to a great extent, but industry must do its part.(12) The Gordon Mills, near Scranton, Pennsylvania, employs practically all

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(11) FOSTER: Stimulating the Organization, (p. 128)
(12) SCHELL and THURBY: Problems in Industrial Management, (p. 240)

foreign help, mostly Scotch, Irish and Polish. This company has established schools, and has taken the responsibility upon itself for the education of these people. They realized that "illiteracy places a real barrier between the management and the worker."(13)

Many other companies have established their own schools as well, realizing all the time, that educational programs are worth whatever investment is made in them. The Goodyear Rubber and Tire Company, with a university of its own, and the Ford Motor Company, with a technical school, are only two of many examples.(14) Industrial Americanization has been spoken of as "interpreting America to the man on the job in the natural course of his activities in the plant."(15)

The Ford Motor Company, as an example of the advantage of education in English, reported a 54% reduction in accidents after a two years' period of English Classes for foreigners.(16) This fact alone, it seems to me, would justify expenditures for education in industry, and, if education will do this

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(13) SCOTT, CLOTHIER and MATHEWSON: Personnel Management, (p. 337)
(14) MARSHALL: Business Administration, (p. 150)
(15) KELLOR: Industrial Americanization, Nov., 1918
(16) FRANKEL and FLEISHER: Human Factor in Industry, (p. 99)

for illiterates, to what great heights could education raise the literate worker?

An excellent method of co-operation between the employer and employee has been the "operating committee" or the so-called "shop committee." It meets at certain regular intervals to settle and discuss all the problems of each phase of the work. Group meetings of this sort have done much to build up some of the largest industries we have today. One company, the Borden Company, has regular weekly meetings, and many important problems are settled here with the assistance of representatives from all the departments in the industry. (17) Another company, which planned to lay off 20% of its help, devised a plan, with the aid of the shop committee, whereby, instead of reducing the amount of help, they could reduce the men to a lower class of work and thus retain only the skilled employees in the organization. (18)

It is far easier to handle a small group in discussions of this sort, than it is to conduct an open forum, although, in a small organization, the latter could be carried on with success.

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(17) FOSTER: Stimulating the Organization, (p. 161)
(18) SCHELL and THURLBY: Problems in Industrial Management, (p. 288)

Not only do the representatives of the company control these meetings, but I have been told that outside speakers are introduced to give these present a broader outlook in the business by showing what other companies are doing. Secrecy, as to methods in industry, does not seem to be the keynote today, as it has been in the earlier days.

An excellent method of bringing to the attention of the worker new ideas, new methods, added incentives, personal interest, etc., is by means of the company newspaper or magazine which is published periodically. Naturally, to be successful, the magazine should be printed from the readers' viewpoint-- in this case the employee. We are all interested in the Daily News as it is printed in the newspapers, but it becomes doubly interesting when it is given the personal touch. One company, which publishes the "Carpenter Steel News" stated that the company's product was used in building the motor for Lindbergh's trans-Atlantic flight.(19) This certainly was interesting to the employees, to say the least.

The plant newspaper or magazine is usually looked upon as an insight into the people who are

(19) BRUERE and PUGH: Profitable Personnel Practise, (p. 322)

instrumental in the success of the organization, but, at the same time, it should not take the paternal, "holier than thou" attitude. Of course, the newspaper should contain editorials and serious matter, as well as personalities, jokes, cartoons, pictures, etc.

Not only can the magazine give direct information to the reader, but also, it can accomplish a great deal in educating him as to the most conservative methods of operation. The Curtis Publishing Company, whose magazine is called "Curtis Folks", published an article about the history of paper, from the time it is milled until it appears on the Saturday Evening Post, and through the whole thing is interwoven the idea of paper waste loss. They claim that the decrease in paper loss, as a result of this article, was worth considering.(20)

In our mode of life today, we are apt to accept many things as though they had always existed. The same is true of the company magazine. It is only since 1890, when the National Cash Register Company Magazine(21) first appeared, that industries have seen

(20) BRUERE and PUGH: Profitable Personnel Practise, (p. 323)
(21) Same; (p. 316)

the many advantages of these publications. However, it is only since the World War, which marked the turning point in Personnel Management,(22) that industries have realized the value of the regular appearance of such a publication.

Not only does the magazine treat the subjects mentioned above, but also takes a very important part in the promotion of health and safety of the worker. It calls to his attention the existence of cafeterias, recreation rooms, lockers, medical aid clinics, etc., and encourages the worker in the use of these facilities.(23)

However, it is very easy for the magazine to become nothing but a preaching, uninteresting, and paternalistic publication. It should "kindle esprit de corps",(24) and should fire the employee with ambition, so that his accomplishments may be printed for allto read.

Training and education will always be important in industries, and the sooner this fact is accepted, the better it will be for all concerned.

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(22) CORNELL: Industrial Organization and Management, (pp. 1-3)
(23) Same: (p. 347)
(24) FOSTER: Stimulating the Organization, (pp. 300-302)

PART V

WORKING HOURS and WORKING CONDITIONS

WAGES and SALARIES

Almost since the beginning of the factory system, when the manager started to lose his personal interest in his workers, there has been a growing breach between labor and industrial leaders; chiefly in regard to working hours and conditions.

Of course, labor has always been sullen and displeased, because of the fact that very human beings like to be "bossed," and this is especially true if the boss is unpleasant and superior.(1)

A very narrow point of view, in regard to production, was prevalent in the days before scientific management. This was that, every hour that the factory was working meant increased production, and every hour that the employee's machine was idle and the plant empty, meant added overhead expenses. This point of view is very rare in industry today, however. Progressive industries are realizing that longer working hours mean greater fatigue, and therefore, poorer quality production, as well as smaller quantity production.

(2) John D. Rockefeller, Jr., in his book, "Personal Relation in Industry," said that, "The soundest industrial policy is that which has constantly

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(1) HUNT: Scientific Management since Taylor, (p. 238)

(2) RUBEY: Industrial Organization, (p. 122)

in mind the welfare of the employees as well as the making of profits and which, when it considers human demands, subordinates profits to welfare." "That to be successful, industry must not only serve the community and the workers adequately, but must also realize a just return for capital invested."

Regular rest periods are one of the best ways of reducing fatigue, but, I should think it would be a very hard thing to induce piece-rate workers to take the time to rest. Therefore, these should be compulsory rather than being left to the discretion of the employee. The idea that regular rest periods may reduce output, seems, on the face of it, to be sound; but, it has been found that after the worker has rested, he has a new vigor which will increase production to a great extent.(3) Also, some industries have installed a "Home Box Method" of resting which has helped considerably to interest the employees in the advantages of relaxation and rest. This method gives the employee an education while he is resting, thereby serving a double purpose. Industries have received a great deal of co-operation from outside sources in collecting reading matter for their employees, as witness, the

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(3) MARSHALL: Business Administration, (p. 141)

public library of Providence, Rhode Island, which has established a branch at the New England Butt Company, Providence, Rhode Island. (4)

Unless the cause of an evil is eliminated, it is impossible to erase the evil. The same is true of fatigue. This element has been defined as "the diminished capacity for work, which is the result of previous work." (5) The causes of fatigue are, in short; prolonged hours , work done at unusual times (Sunday, overtime, night), and conditions of work which are unfavorable to quality production, such as insufficient heat, poor light, poor ventilation, etc.

An important factor in the elimination of fatigue has been the regulation of working hours.

With the realization that long hours were the direct cause for fatigue, came the agitation for shorter working hours. Ira Stewart proposed the eight-hour day during and after the Civil War, but he was alughed at, just as are all pioneers in any endeavor. However, it was not until directly after the outbreak of the World War (1915-1918) that the eight-hour day was becoming generally adopted by all industries. (6)

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(4) GILBRETH: Fatigue Study, (pp. 55-73)
(5) LEE: Diseases of Occupational and Vocational Hazards, (p. 14)
(6) FRANKEL and FLEISHER: Human Factor in Industry, (p. 111)

By the Treaty of Peace of 1919, as proposed by the Allies, it was attempted to enforce a universal standard for all industrial countries in regard to working hours.(7) It was suggested that all countries adopt the eight-hour day and forty-eight hour week, but its adoption was "favorable rather than general."

The drop in the length of the working day was a gradual one and, even today, working hours have a certain lack of uniformity. However, the average is from seven to twelve hours a day, and from five to seven days a week.(8)

It may be that soon we will have even shorter working days, due to the fact that there is so much unemployment. A possible solution to this situation might be to have the industries change their working forces, and have two divisions of about four or five hours each in order to give employment to twice the number of workers already in the factories.

I learned from Mr. Robert Kreps, of the Industrial Bankers of Cambridgeport, that there are two ways of shortening working hours; one is to divide the day so that there will be definite rest

(7) BARIDON and LOOMIS: Personnel Problems, (p. 300)
(8) Same: (p. 299)

periods during the working day; the other is to shorten the working days with no rest periods, or practically none. The latter does not seem to me to be quite as efficient as the former, for the reason that fatigue may develop at any point during the working hours and, from that time, all production will be greatly decreased. In some states, laws are being passed whereby certain classes of workers and certain occupations must enforce at least one hour for the lunch period. The Ford Motor Company has divided its day into three eight-hour shifts (9) but this does not give the employees very much time for relaxation.

The adoption of either one of these two systems is dependent, however, on the type of work which is being done. Industries whose products are detrimental to the health of the worker, will require more frequent rest periods. Also, the length of the working day is dependent a great deal upon the type of employee--male or female--for the latter are not quite so physically fit for industrially as the former.

(10) Lord Leverhulme, owner of the Port Sunlight Soap Works, has been very much in favor of the six-hour day, for he believes it is a solution for

(9) FRANKEL and FLEISHER: Human Factor in Industry, (p. 127)

(10) LEVERHULME: The Six-Hour Shift and Industrial Efficiency, (p. 23)

unnecessary fatigue in all industries where women and girls are employed.

Closely connected with working hours is the subject of working conditions. The Shredded Wheat Company has shown very clearly, the many advantages of investing in ideal working conditions, in the fact that the company has grown so rapidly.

It would be very difficult for me to say just what working conditions are absolutely essential to all industries, for each industry naturally, has certain ideal conditions which are peculiar to that one alone. For example, the lithographing industry has certain kinds of lights which are adaptable to that particular work, whereas, it probably would be very unwise to install such lighting equipment in another type of industry.

However, the following are absolutely essential, not only to successful industries, but also to good living. These are: good lighting, ventilation, sanitation, safety and health guards, and organized recreation.

Society has endeavored to co-operate with industry in regard to working conditions by enacting certain legislative laws. Every factory should have

first-aid equipment in case of accident. (The Shredded Wheat Company has a fully equipped hospital which is ready to meet any emergency whatsoever.) They must have proper facilities for ventilation and heating: they must have proper equipment for fire prevention; and, although legislation has made some progress so far as working hours are concerned, labor has gone far ahead to demand that all industries endorse the eight-hour day. Not only does legislation stipulate as to workinghours, but also as to working conditions. The proof of this is shown in the Railroad Liability Act, which was passed in 1911, and which accomplished a tremendous decrease in railroad accidents--forty-seven per cent between the years 1910 and 1916.(11)

Unsatisfactory working conditions not only endanger the health of the workers, either immediately or eventually, but also will have a marked effect on production in the industry.

However, it requires co-operation among all concerned, in order to decide and enforce safety conditions for the workers. The Personnel Department, in conjunction with the executives, may decide that certain

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(11) FRANKEL and FLEISHER: Human Factor in Industry, (p. 17)

conditions must exist in the factory; for example, that all machinists on the log-cutting machine should use a safety device, or that all workers on certain electrical work must wear goggles, but it is the responsibility of the foreman of the department to see that these rules are enforced. He must examine carefully all his workers, to be sure that they are all following, to the minutest detail, all the rules of the organization. If he should discover that some one worker is not co-operating with the rest, it is his duty to speak to him and to make him realize how very foolish he is if he is trying to increase his production by placing himself in a very dangerous position.(12)

Safety is one of the most vital functions of the Personnel Department. It is such an important phase of industry that the National Safety Council has been organized. This Council does not share profits, it is unbiased in its decisions, and has done a great deal to make factories better and safer places in which to work.(13)

I have said before that labor has stepped ahead of society in trying to shorten working hours.

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(12) CORNELL: Industrial Organization and Management, (p. 341)

(13) COMMONS: Industrial Goodwill, (p. 59)

Some people may raise the objection that shorter working days restrict production, but the fact is that if shorter days are accompanied by proportionate decrease in wages, the labor costs of manufacturing are the same, and more people are employed, thus lessening the dangers of large numbers of unemployed. (14)

Henry Ford Uses this device in slack seasons, and, although it lowers the standard of living temporarily, less people suffer from unemployment. The Ford plan, which was inaugurated in March, 1922, was to shorten the working week, and employ more men to meet the demands for production. (15)

I have said before that there are two elements which enter into the qualifications for a job; (p. 7) good wages and elisure time to satisfy the needs and dsires of life. Of course, to the employee the wages he receives are almost the most important thing to him when he goes to seek a job--how much money will he receive. Even working conditions and conditions are subordinated to "how much will he get." Therefore, lowering wages is a very poor way of economizing in industry; for usually the result is

(14) FORD: A Scientific Approach to Labor Problems, (p. 21)
(15) FOSTER: Stimulating the Organization, (p. 214)

decreased quality and quantity of productions and increased percentage of labor turnover. The worker if he is worth it, should be paid a fair wage for his work, and the executive who is not willing to pay in this way, will find that he is paying almosttwice as much because of the increased labor turnover.(16)

No workman will work for less pay than what he is actually earning, and it is not fair to offer him less. There seems to be constant controversy between employers and labor. Labor thinks that the employers are trying to pay as little as possible, and the employers, on their side, think that labor is trying to get as much as possible. As a matter of fact, neither side is right. There are many conditions which show that wages cannot be fixed arbitrarily. These are: conditions of the labor market, the general business conditions, the cost of living, the conditions within the particular plant, and the standard rates prevailing in the plant.(17)

The slogan of the labor unions has always been "A fair wage for a fair day's work." However, opinions naturally differ as to what constitutes a fair wage and a fair day's work. As a result of one

(16) CORNELL: Industrial Organization and Management, (p. 566)
(17) Same: (pp. 567-570)

of these controversies, the Socialistic organization, known as the Industrial Workers of the World, was founded in July, 1905, at Chicago, Illinois, by Eugene V. Debs.(18)

The American Federation of Labor was formed in 1886 as a sort of arbitrary body for the workers in the United States. This organization grew so influential so far as legislation was concerned that the Government was fit to establish a Department of Labor (1888) "for the purpose of collecting and publishing important facts respecting the conditions, rate of wages, and general progress of the laboring classes of the country."(19) The results of the research work of this department are available to all industries, and have done much to stabilize labor. A very striking example of the power of labor unions is the Coal Strike of 1902. The strike was called for the usual reason, unsatisfactory wages, and lasted for more than five months. As a result, the workers were granted a wage increase and shorter working days.(20)

Since that time, many labor strikes have been called, and almost every time it is because of

(18) ENCYCLOPAEDIA BRITTANICA: Vol. 12, Ed. 14, (p. 310)

(19) MONTGOMERY: The Leading Facts of American History, (p. 365)

(20) Same: (p. 407)

of unsatisfactory wages. Of course, this disorganizes industries temporarily, and causes general upheaval. The Garment Workers' Union, both in New York and Boston, are constantly striking for higher wages. Within the last year, despite the fact that there has been so much unemployment in their field, garment workers are still demanding higher wages, and employers seem to see fit to grant their demands.

To my mind, labor seems to have been overestimating the value of their productivity. Even though industry has granted the demands of labor, it has not received in return, increased efficiency. Of course, this cannot be accepted as an unqualified statement, as witness the Arthur Nash Company, which increased the wages of each worker almost 300% and was amazed to find the tremendous result of increase in production. Mr. Nash's slogan was to apply the Golden Rule to industry as well as to living.(21)

The rise and fall of the standard of living has been the prime factor of adjusting wages. On the other hand, many firms adjust their wages with the changes in the value of the dollar. The Philadelphia Rapid Transit Company and the Mitten Management base

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(21) NASH: The Golden Rule in Business, (p. 54-59)

their wage scale on market costs.(22) Of course, in speaking of wage scales, one must always take into acount allowances for unusual conditions. Wages are standardized only to the extent that, whenever there is a variation of twelve and one-half per cent or more in the United States Department of Labor cost of living scale, industry's basic wage scale does up or down automatically.(23)

There are many other methods of paying wages, each of which is a problem in itself. These are: benefit associations,(24) profit-sharing systems,(25) pension funds, and bonus plans. It would seem futile for me to attempt to describe each of these plans here, for I couldn't possibly do them justice. Therefore, I shall not attempt to give the details here.

Another phase of industrial management, which it is impossible for me to give in detail here, is that of transfers. However, I shall give just a word about transfers in relation to management.

Oftentimes, an employee will decide to leave the industry for no apparent reason. Sometimes he may

(22) BRUERE and PUGH: Profitable Personnel Practise, (p. 19-20)
(23) Same: (p. 21)
(24) MARSHALL: Business Administration, (pp. 183-184)
(25) FOSTER: Stimulating the Organization, (p. 366)

feel that he is not advancing as rapidly as he should. Transfers may do away with a great deal of ill feeling on the part of the employee, thereby reducing considerably the cost of labor turnover, and guarding the asset, good will.

I believe it is inevitable that labor and capital will always have some differences in regard to wages, working conditions, and working hours. Thus the strong need for an arbitrary committee is felt. The American Federation of Labor and the wage-rate committees formed by each industry, manage, somehow, to keep harmony between labor and capital.

PART VI

IMPORTANCE of

JOB ANALYSIS and TIME STUDY

The study of job analysis has grown to such large proportions during the history of scientific, that I feel confident in saying that job analysis, time study, and job specifications, are the most important thing in production and its relation to personnel management.

"Job analysis is scientific study and statement of all the facts about a job which reveal its content and the modifying factors which surround it."(1)

Just as every industry has certain standards of work, so each process in the industry has certain standards as to quality, quantity of production, time limits, etc. It is absolutely essential that every worker adhere to these standards, for, it he doesn't, he is seriously hampering the steady flow of production. He is truly a "wrenth" in the machinery of industry.

Although the ordinary workman may not know it, time specifications, as they are given to him, are the results of hard work on the part of the research department. This work would be of absolutely no avail if the workers did not keep the standards as set by the group. Time study and specifications are especially

(1) TEAD and METCALFE: Personnel Administration, (p. 255)

important when workers are being paid on a piece-rate basis.

Of course, it is quite obvious that workers cannot have all the information in regard to specifications that the group has, but they must have enough to give them a complete understanding of exactly what is expected by the executives. Giving the workers this information will "insure accuracy and dependability in management, research, processes, and results."(2)

Time study makes possible the "transfer of skill from management to men." It has two phases: analytical work and constructive work. Standards of production and time limits are set up as a result of agreement as reached by the heads of the departments, the foremen, the chiefs of all the divisions, supervisors, and finally, by the workmen themselves. Many times, however, specifications may be written jointly by the employment manager and the foreman.(3)

Time is one of the most important factors in industry today, and therefore, a conservation of time proves to be a conservation of energy, and means

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(2) TAYLOR: Scientific Management, (p. 79)
(3) FRANKEL and FLEISHER: Human Factor in Industry, (p. 41)

a great deal in actual profits to an industry.

Frederick W. Taylor was one of the first to employ time study. He used the stop watch method, (1880).(4) The motion picture camera was brought into use by Gilbreth in studying time limits(5). This form of study was called the micro-motion method.

As I said before, standard requirements are not set up arbitrarily as a result of a quick, scanty survey of the work, but rather by scientific research, which has studied the job from every angle, and has detailed information as to just how the job should be done. Accurate information in regard to "occupational classification, rate setting, occupational hazards, training and promotion"(6) should be obtained before research work can begin in order that all the conditions which should enter into time study are included.

All the different processes which go to make the product of the industry are inter-related. But, each job must have a standard all its own, for the standards of one type of machine, obviously, cannot be carried over to a similar machine, because each

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(4) TAYLOR: Scientific Management, (p. 82)
(5) DIEMER: Factory Organization and Administration, (p. 318)
(6) BARIDON and LOOMIS: Personnel Problems, (p. 11)

difference, no matter how minute, sets a new standard. For example, in the printing department of the Dennison Manufacturing Company, there are machines which print the colored designs on the cellophane which is used for wrapping candy boxes. Cellophane does not absorb ink as readily as ordinary paper does, and consequently, the time limit for printing paper cannot be carried over to the printing on cellophane. Again, the matter of how much printing to be done on the cellophane must be taken into consideration, for, if a die takes three or four colors and is put on heavily, (as is true of the printing for the Schrafft candy boxes) sheets of paper must be slipped between the sheets of cellophane in order that they may not be blurred. Here again, new standards of time limits must be set for separating the so-called slip-sheets from between the printed sheets of cellophane. Time limits are called into play in all departments of an organization where regular processes are being done. I do not believe, however, that time limits can very well be enforced in organizations where special, individual, work is being done, especially hand labor.

On page 73 I mentioned two methods of setting time limits, and it seems to me that their names are self-explanatory. The operation of these methods are very obvious, but there are other ways of setting time limits. These are: by interviewing the employees as to the best conditions and processes, by observing the type of person best suited to the job, and by a careful analysis of certain questionnaires which may be sent to other persons in the same field of production.(7)

It is the responsibility of the foremen in every department to enforce the time limits. They should be trained to feel this direct responsibility and to assist the research agent in every way possible, in arranging studies under the most favorable conditions, and in providing adjusted machinery, adequate working tools, etc.

In all my readings on time study and job analysis, I have found that always the main purpose was to find the easiest, most efficient, and surest way, so far as the employee was concerned, of doing the work.

A great deal has been said, both pro and con, in connection with standardization of operations. One

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(7) MARSHALL: Business Administration, (p. 200)

opinion was that "standardization blocks the way for further development and improvement."(9)

I believe this is a biased opinion. The fact that a standard is set up for a process does not necessarily mean that the standard must be maintained regardless of the progress made in the processes in the industry. New standards are constantly being adopted and therefore, there is always the demand for constant research and study so far as job analysis is concerned. There is not a chance for stagnation in industry if the research department is a progressive one, which is constantly on the alert for better methods and faster and easier operations. Here again, scientific management has taught industry the tremendous values of research and experiment.

To one who is not quite familiar with the methods of job analysis, it seems that this process is merely a way of driving the worker to produce his utmost for the benefit of the employer. This is not true. Although the employer does gain, the advantages of time study to the employee are many.

The amount of money that a man earns has always been his chief interest in getting a job. A

(9) TAYLOR: Scientific Management, (p. 80)

survey of the time studies, at the time he enters the employment department, will show him exactly how much he should earn in a certain job. Again, time study reduces the wear and tear on the worker, both physically and mentally, and also, it may do away to a great extent, with any disagreement between worker and the employer as to the amount of work to be done, what constitutes a fair day's wage, the quality expected, etc.

The Markham Company carried on a series of studies in regard to job analysis. As a result of their research, they found that there were two advantages to be gained from job analysis. In the first place, it would train the foreman to realize exactly what qualities are desirous in the workers in their departments; and, secondly, a knowledge of these qualities would help the foreman to re-organize his department so that he could get the maximum efficiency from his available labor.(10)

Of course, a knowledge of what job analysis includes must be understood before the work can be carried on. It consists of an intimate knowledge of the job itself, the qualifications necessary in the

(10) SCHELL and THURLBY: Problems in Industrial Management, (p. 206)

worker, sequence of operations, the effects of the job on the worker, the relation of the job to the organization.(11)

It is only within recent years, in fact, since 1918, when the Pennsylvania Department of Labor and Industry sent out its frist questionnaire, that job analysis and job specifications have come to be regarded seriously and scientifically.(12)

Such companies as the Markham Company, the Mently Automatic Devices Company, the Hatley Company, the Mixmer Company, the Dennison Manufacturing Company, and the Curtis Publishing Company, have benefited greatly, both materially and otherwise, from job specification and time studies.(13) These companies feel that all the time and effort that was spent in this research work has fully repaid itself by the reduction in the cost of labor turnover and the increased quality and quantity of production.

Job analysis is a very important factor in industry, and I feel that it is growing in importance as industry progresses. No industry should be so stubborn that it will not change its specifications after they have been set, for, if they should revert to such

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(11) CORNELL: Industrial Organization and Management (p. 289)

(12) FRANKEL and FLEISHER: Human Factor in Industry, (p. 45)

(13) SCHELL and THURLBY: Problems in Industrial Management, (pp. 205-219)

a policy, the process will be defeating its own purpose.

I have mentioned before that job analysis and job specifications are processes for which an industry may increase its productivity by means of finding the best possible methods of operation, as well as the quickest. (p. (p. 75)

If an industry does find, to its knowledge, the best methods of production, it must realize that sooner or later other methods may be introduced for which no standards have yet been established. Thus, the process of analysis is more or less continuous, constantly being added to and detracted from. Progressive industries will set up new standards for new improved methods of operation which they may adopt, such as the case of printing on cellophane by the Dennison Manufacturing Company. (p. 74)

By means of constant research, both the executives and the workers in the industry will profit by the benefits of job analysis, time specifications, and time studies.

PART VII

LABOR TURNOVER

One of the first reasons for delving into the personnel problem at all, was the fact that labor turnover was becoming such an expensive item in business managment. (pp. 4 and 5)

The term "labor turnover" is commonly used today, yet I don't think that one or two definitions would be superfluous. The American Management Association defined it as: "1. the extent of shift and replacement oflabor occuring in the maintenance of the working force. 2. the condition involved in the hiring loss, and replacement of labor."(1)

Adelbert Ford described labor turnover as"an indirect indication of the status of efficiency with which men are adapted to jobs, therefore, an index to plant productiveness."(2) He compares turnover to accidents.

The per cent of turnover, to put it clearly, is the per cent of changes which are made in an organization, due to many causes. Many of these, of course, are inevitable, such as: sickness, old age, transfer, marriage (female workers), etc. However, there is another cause, bad management, which must be remedied.

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(1) ENCYCLOPAEDIA BRITTANICA: Vol. 13, Ed. 14, (p. 555)
(2) FORD: A Scientific Approach to Labor Problems, (p. 25)

Tead and Metcalfe give a formula for computing the rate of turnover: (3)

$$T(\text{Turnover}) = \frac{S(\text{Total Separations})}{F(\text{Total average force on payroll})}$$

This formula, as it stands, is quite simple and obvious, but, of course, the computations are much involved and require more space than can be given to it in this thesis. However, in connection with this point, let me repeat that many causes for the high percentage of turnover can all be traced to poorly managed and poorly supervised departments. In computing costs, one must consider hiring cost, training cost, breakage and waste, idle equipment cost, and the expense of excess use of raw materials by new employees. (4) It is a question whether or not too much emphasis has been placed on the cost of turnover rather than on the cause of turnover.

In the medical profession when a symptom occurs, the underlying cause must be cured. The same is true in industry. However, high turnover figures are not necessarily a sign of bad management. Many times an industry will need new blood to spur the old employees on in adopting new methods of operations. (5) In such

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(3) TEAD and METCALFE: Personnel Administration, (p. 283)
(4) FORD: A Scientific Approach to Labor Problems, (pp. 183-184)
(5) CORNELL: Industrial Organization and Management, (p. 312)

a case, high turnover figures are a sign of growth rather than deterioration. However, when the company is found to have bad management, personal interviews with those who are leaving will help a great deal in checking exits from the industry.

Before the depression of the past two years, the causes of labor turnover were growing constantly. One of the main reasons for this, I think, was the fact that, comparatively suddenly, the worker came in fairly close contact with the outside world, due to the fact that such rapid strides were taken in the fields of advertising, travel, etc., and always the worker was seeking new adventure, and new fields of endeavor.

Another reason, and one which industry has not acknowledged until very recently, was the fact that employers would pay a great deal to get skilled workers, but once they were hired, they were forgotten, so far as the employer was concerned. His welfare was entirely forgotten, the work was not attractive enough, promotions were not forthcoming, and, consequently, the employers were promoting, rather than discouraging a migratory existence for the employee.

The unemployment problem of today, is presenting a very serious problem to the world. Most companies are trying to keep their workers, even though production has fallen off considerably. Among these are The Joseph and Feiss Company, The Dennison Manufacturing Company, the Hickey-Freeman Company, and many others, who have tried to arragge to cure the evils of unemployment from within the industry, rather than give society the total burden.(6)

I do not believe that industry is justified in blaming society for the high rate of turnover. The wise employer will do all he can to regulate conditions within the factory, and then, if this does not prove successful, he will take into account outside conditions.

We often hear the tale of too high turnover, but very seldom do we hear of too low turnover, and yet, one is just as bad as the other. In the case of too low turnover, the employees go stale on their jobs.(7) They have not been instilled with the fire of ambition which new blood in an organization will bring. This case, however, is really very rare, and that is why so often a lower labor turnover does not offer such a complete problem as high turnover.

(6) HUNT: Scientific Management since Taylor, (p. 175)

(7) CORNELL: Industrial Organization and Management, (p. 312)

Transfers have done much to reduce the cost of labor turnover. However, these should be handled very tactfully. A personal interview with the man who is leaving voluntarily, will help a great deal in ascertaining the cause for the departure from the organization. A little sympathy, tact and understanding have accomplished a great deal in effecting transfers within the organization and keeping the employee working.(8) (See also, page 69)

Many times, personal dislike between the worker and the foreman of his department will cause the worker to leave,(9) but, here again, a transfer will help considerably.

A few statistics at this point might help to show the remarkable effect of transfers in reducing turnover. The Ford Motor Company, as a means of reducing its turnover, transferred as many as 2,847 men in one year, who had given notice of leaving. Similarly, the Dennison Manufacturing Company effected 219 transfers in the year 1915.(10) To solve the unemployment problem today, many companies are effecting transfers and promotions wherever possible.(11)

(8) BINGHAM and FREYD: Procedures in Employment Psychology, (p. 40)
(9) CORNELL: Industrial Organization and Management, (p. 299)
(10) FRANKEL and FLEISHER: Human Factor in Industry, (p. 73)
(11) HUNT: Scientific Management since Taylor, (pp. 174-176)

Turnover costs are usually very high, dependent, of course, on the degree of skill required. Deer & Company claim that it costs $1,000 to replace a foreman: (12) and this in only one example of the expense of turnover. To show how these costs may rise into unbelievable figures, the Ford Company's turnover in 1913 at $25 a man, cost between $1,261,200 and $2,000,000. (13)

My conclusion in regard to turnover is, that if management would consider the fact that investment in labor is an investment which would repay itself twice-fold, and, if the personnel department is a success, then the industry itself creates a labor policy which can come to be its most valuable asset. (Houghton-Mifflin Company, page 47)

I believe that if management would realize that they must preserve the energy of their workers, just as they economize on waste in production, they would be eliminating one of the greatest expenses in industry: namely, labor turnover costs. Investment in research in the personnel department, today, has done much for the economic success of industry.

(12) FORD: A Scientific Approach to Labor Problems, (p. 183)

(13) FRANKEL and FLEISHER: Human Factor in Industry, (p. 70)

PART VIII

SUMMARY

Ever since the time when Frederick W. Taylor first started his experiments in scientific management, the employee has been regarded as far more important even than the amount of production in a business. Industrial management today is a science which has grown so rapidly that progressive industries are forced to recognize it as one of the main departments in their organizations.

The Personnel Department is regarded as a go-between for the employer and the worker. Industries have grown so large, and the number of employees so many, that it is only through the Personnel Department that the manager can possibly keep in touch with all his workers.

Of course, some may say that it is not so important that the employer know all his employees, but it is amazing to find how much good a friendly word from the man "higher up", or a handshake, from the boss, will do in creating that intangible something which means so much to the industry--goodwill.

It has been said before in this thesis that a satisfied employee will give a much higher quality product than a dissatisfied one. I firmly believe this is so. Work in an organization where the at-

mosphere is constantly being charged with dissatisfaction and unrest cannot possibly create a favorable quality of work. The paternal attitude toward employees and the superior air of executives can do much harm in lowering their own standards of production--they are defeating their own purposes. This condition is not so prevalent today as it had been when the factory system was first installed in industry during the eighteenth and ninteenth centuries.

With the establishment of the personnel department, training had come to mean so much in industry that many firms have placed at the disposal of the training department whole floors of their factories.

The Dennison Manufacturing Company had, perhaps, the best known and most efficient and successful training department in industry. Today, however, this company has seen fit, as so many other companies have, to change their system of training, and, by having new employees learn the methods of operation at the machine, have reduced their expenses and have attained better results.

Not only have industries realized the value of technical training, but also, they have recognized the tremendous success of offering educational courses.

We Americans have been apt to think that we have been the leaders in all things but, as a matter of fact, technical training was started in Europe, in France and Germany, as early as 1747 and 1799.(1)

It was not until 1824 that the first technical school was opened in the United States at Troy, New York, as a school of applied science.(2)

The establishment of technical schools has not come nearly so rapidly as the demands made for them by industries; consequently, so many of the industries were forced to establish their own schools: the Bradford-Durfee Textile School, at first, and then the institution founded by the Goodyear Tire and Rubber Company, and the technical school of the Ford Motor Company.(3)

It was not until the World War, however, that industries realized the vast importance of scientific management, and, since that time, the problem of personnel has come to be one, which is, I believe, the most important factors in the success or failure of an organization. It is true that a successful labor policy will go far to make a successful organization.

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(1) MARSHALL: Business Administration, (p. 536)
(2) Same: (p. 537)
(3) Same: (p. 150)

One of the most practicable forms of training has been created by the Goodyear Rubber and Tire Company, in 1913, and is very practicable for both the larger and smaller organization. The Coleman Lamp and Stove Company, of Kansas has used this system successfully since 1924.(4)

In this thesis I have stressed training and have subordinated wages and salaries and other items which are closely connected with training. Of course, it is very difficult to segregate vocational training and educational training from these other factors, yet, at the same time, so much depends on this subject, that I have felt justified in enlarging on the different types of training as they are being used in industry today. Regardless of whether or not a company will admit the fact, a certain amount of training will always be necessary when a worker is hired for a new job. (See Appendix, Walworth Company.)

The humanistic attitude is most prevalent in industry today, and regardless of the success to which an industry has risen "society will always look toward those men who made these attainments possible."(5)

To my mind, the importance of the Personnel Department cannot be overestimated. Its job is a

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(4) CORNELL: Industrial Organization and Management, (p. 327)

(5) METCALFE: Psychological Foundations of Management, (p. 94)

difficult one, for it must retain satisfied employees so that the maximum production may be obtained with a minimum amount of time, effort and friction, and, at the same time, it must keep in mind the welfare of the employees. I believe that a department which is well organized can be of the greatest assistance in building a business, but, on the other hand, a department which is maintained in a loose manner, may be most detrimental to the success of the industry.

The humanistic attitude is just as important in business organization as it is in life itself. Mr. Nash said that the Golden Rule applies to business and creates such an attitude, that the employee, of his own free will, will develop his potentialities to the best of his ability, and, of course, with the willingness of the employee to co-operate, and the desires of the industry to give him all the opportunities available, to what great heights could any industry rise?

APPENDIX

THE ANGIER CHEMICAL COMPANY

Brighton, Massachusetts

This is a very small company which manufactures a sort of patent medicine.

It did not impress me as being a very progressive industry. Their employment manager told me that they have had the same people working there for an average of about twenty-five years.

They have no training department, practically no labor turnover and, from the standpoint of training personnel, their research work is negligible.

THE HOUGHTON-MIFFLIN COMPANY
Riverside Press

Cambridge, Massachusetts

The system of training and the working conditions in this industry have been explained in detail in an earlier part of this thesis. (Chapter IV)

The attitude here seems to be of one great family working together for the mutual success of the industry.

Mr. Howard Roberts, the Employment Manager, was very helpful in giving me a great deal of information, which I have included in this thesis. One of the deepest impressions, however, and one of the most conclusive statements, which sums up the advantages in this factory, was the statement made by him in which he said, "The reason for the success of our labor policy is that we have adopted the fraternal, rather than the paternal attitude."

To my mind, this sums up the complete labor policy which gives an organization success.

THE SHREDDED WHEAT COMPANY

Niagara Falls, New York

During the year 1930-1931, I visited the Shredded Wheat Company, at Niagara Falls, New York. It was there that I developed that strong feeling that I had had before that industries should be humanistic for, when I saw that this company had provided so many facilities for their employees, I realized that industry is humanistic.

This company has the finest facilities available for its employees that I have ever seen. The location of the plant alone is an inspiration; the factory is beautifully located and the working conditions seemed to be ideal. They have exceptional facilities for recreation, medical service, and other opportunities which are available to the employees.

By watching the workers, I could see that they seemed to be very much satisfied with their positions. They are so happy at their work that many of them sing as their fingers move rapidly, packing the wheat cakes. There didn't seem to be

a grouchy employee among them.

To visit this factory is, in itself, an inspiration which is a stimulant to the further progress of personnel management.

THE WALWORTH COMPANY

Boston, Massachusetts

This company manufactures plumbing and heating supplies.

I wrote to the factory asking them for information in regard to their training policy, but never have received a reply. Consequently, I visited Mr. Burton, the Employment Director of the Walworth Company, and learned some very enlightening facts about the company.

He told me that their company has never used any form of training whatsoever; they have always employed skilled workers and their chief source of labor supply has been the labor unions but, at the present time, with business conditions as they are, the company has had no occasion to draw on these agencies for labor.

In regard to training, Mr. Burton said that the slogan of the Walworth Company has always been, "Every man for himself", and if he does not do well on the job, he is fired and someone else is hired to take his place. This would seem to indicate a high cost of labor turnover but, as a matter

of fact, Mr. Burton did not seem to think very much of the cost of turnover and I concluded that it must be a negligible item in this organization regardless of the fact that employment is being done in a sort of haphazard manner.

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